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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,111	12/03/2001	Jun Ishii	01792C/HG	3578

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EXAMINER

KUHAR, ANTHONY J

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 08/13/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,111

Applicant(s)

ISHII ET AL.

Examiner

Anthony J Kuhar

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The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Irradiation Notice*.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-9 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the process as claimed requires heating "by an electromagnetic induction method." While this may be true, MPEP § 806.05(e) states that the inventions are also distinct if the apparatus as claimed can be used to practice another and materially different process. The present apparatus could be used for the decomposition of both halogens and SO_x gases.

The requirement is still deemed proper and is therefore made FINAL.

Claims 10 and 11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 5-7, the Markush groupings are indefinite due to the duplicate use of "and". It is suggested that -- titania -- be inserted in front of the Markush groupings. Also, "TiO₂" is superfluous.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 04-63131. See the abstract.

Claim 8 is rejected under 35 U.S.C. 102(a) as being anticipated by JP 11-221440. See the abstract.

In the English language version of either summary of the instant prior art, a gaseous halogenated hydrocarbon is passed through a heating body that is electrically conductive and decomposed. The heating body is heated by an electromagnetic induction method.

Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Krause '808.

Krause '808 discloses using an electrically conductive metal catalyst that has been heated by electromagnetic induction heating to decompose gaseous halogenated organic compounds (see column 1, lines 14 and 53 and column 2, line 1.) In column 2, line 38, stainless steel is disclosed as the conductive metal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause '808 in view of Tajima '656.

Krause '808 discloses using an electrically conductive metal catalyst that has been heated by electromagnetic induction heating to decompose gaseous halogenated organic compounds (see column 1, lines 14 and 53 and column 2, line 1.) In column 2, line 38, stainless steel is disclosed as the conductive metal. Krause '808 does not disclose placing a catalyst on the conductive metal to decompose the halogenated organic compounds.

Tajima '656 discloses in a similar process where gaseous halogen containing organics are decomposed by using catalysts in a reactor where the outer wall is heated by an electric heater. Catalysts are listed in column 3, lines 4-5 and column 3, lines 18-19. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use the process of

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Krause '808 and further use one of the metals of Tajima '656 for decomposition of organic halogen compounds because Tajima '656 teaches that these catalysts have strong acid sites which are effective in treating exhaust gas containing organic halogen compounds (see column 1, line 61 and column 3, line 2). One of ordinary skill in the art would have been motivated to do this because adding the metal catalysts of Tajima '656 to the electrically conductive metal of Krause '808 further accomplishes the task of decomposing organic halogen compounds. Furthermore, it appears that some of the catalyst-carrier combinations shown in column 3, lines 35-40 are a metal catalyst on an electrically conductive metal carrier.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J Kuhar whose telephone number is 703-305-7095. The examiner can normally be reached on 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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August 6, 2002

A handwritten signature in black ink, appearing to read 'SJB' with a stylized flourish at the end.

**STEVEN BOS
PRIMARY EXAMINER
GROUP 1100**